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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,511	10/24/2001	Volker Detering	112740-333	5560
29177	7590	12/14/2004	EXAMINER	
BELL, BOYD & LLOYD, LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			HARVEY, DIONNE	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,511

Applicant(s)

DETERING ET AL.

Examiner

Dionne N Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held-in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **A.)** the “spring” of claim 17; and **B.)** the “sliding contact which contacts the wire” of claim 19, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims **18-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In line 8 of claim 18, and in lines 8-9 of claim 19, Applicant recites "a connection of the wire antenna being achieved via an electrically conductive sliding contact..." Page 8 line 35 through page 8a of Applicant's specification fails to clearly enable the claimed "connection" and its purpose. What purpose does said connection of element **SK** serve?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **13,20,22 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493)**.

Regarding claim 13, shown in **figure 2**, discussed in **column 3, lines 32-33**, Jamison teaches an antenna for mounting on a mobile vehicle, which reads on “a mobile radio transceiver device, comprising: an antenna for transmitting radio signals”, Jamison teaches that the operation is capable of 160 meter band operation, reading on “for transmitting radio signals of different wavelengths”; in **column 4, lines 18-34**, teaches a motor for lengthening or shortening the antenna, reading on “length of the antenna being variable” and “an adjusting part for adjusting the antenna length”; Jamison teaches that the operating frequency is compared to the resonant frequency of the antenna, reading on “a detection part for detecting at least one physical input variable representing a function of the antenna length”; and Jamison further teaches that if the antenna is resonant at operating frequency the antenna length is not adjusted. However, should the operating frequency fall below or exceed certain thresholds, the antenna length is adjusted accordingly, specific to the frequency band in which the antenna is operating, reading on “a control device connected to the detection part for controlling the adjusting part via at least one control signal in dependence on the at least one physical input variable,”.

Jamison teaches that the antenna is adjusted to ‘resonant’. Jamison does not specifically teach that the antenna length is adjusted to one quarter of the wavelength. However, the principles of operating at resonant and its relation to wavelength are well understood by those skilled in the art and is interpreted by the Examiner as reading on, “until the antenna length is adjusted to one quarter of the wavelength via the adjusting part”.

Jamison does not clearly teach that the control device adjusts the antenna length to a minimum value at a beginning of the adjustment of the antenna length. However, it is the Examiner's opinion that one of skill in the art could easily calculate the new antenna length for operating within a specified frequency band, choosing the minimal antenna length, maximum antenna length, or any length there between as the reference point, for the purpose of calculating and adjusting to the optimal antenna length such that the antenna is resonant at the specified operating frequency.

Regarding claim 20, Jamison teaches that the adjusting device is a motor **6**.

Regarding claim 22, Jamison teaches that the control unit **B** is a processor and generates at least one control signal.

Regarding claim 23, since the control unit adjust the length of the antenna so as to operate at 'resonant', specific to the operating frequency of the device, Jamison appears to teach a "switchgear" control unit, as broadly claimed.

4. Claim **14** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493) in view of Pietsch (US 6,118,409)**.

Regarding claim 14, Jamison teaches a standing wave ratio meter **2**, and teaches that a control signal is generated for adjusting the antenna accordingly, based upon signal processing circuit **2,3,4,5,7,9,16**. Jamison does not clearly teach that standing wave ratio meter **2** includes a directional coupler for measuring at least one of forward transmit power and a return transmit power; at least one rectifier; and at least

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one a/d converter; and wherein the control device reads the digitally converted values for generating a control signal dependent thereon.

In **column 1 line 65 through column 2, line 10**, Pietsch teaches extracting forward and return waves and rectifying said signals in order to make available D.C. voltages which are proportional to the respectively extracted power levels, thereby determining the standing waves ratio, such as in standing waves ratio meter **2**, taught by Jamison, said signals being digitized for signal quality processing. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Jamison and Pietsch, for the purpose of providing optimized signal processing for the transceiver device.

5. Claim **15** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493)** in view of **Pietsch (US 6,118,409)** and further in view of **Belcher (US 5,589,844)**.

Regarding claim 15, as discussed in the rejection of claim 14 above, the combination of Jamison and Pietsch teaches a detector comprising a rectifier and A/D converter as claimed, in addition to making available D.C. voltages which are proportional to the respectively extracted power levels in determining standing wave ratio.

The combination of Jamison and Pietsch does not clearly teach the use of a Wheatstone measuring bridge or a noise generator as the input to the Wheatstone measuring bridge for generating a bridge voltage proportional to the impedance of the

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antenna. However, it would be obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Jamison, Pietsch and Belcher, substituting a Wheatstone bridge detector for providing an output signal to a controller, in an effort to match the impedance of the antenna, so as to tune the antenna to resonant.

6. Claims **16,17 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493) in view of Harada (US 6,002,378)**.

Regarding claim 16, Jamison does not clearly teach the construction as claimed. In **figures 1 and 2**, Harada teaches a transceiver device wherein the antenna is a telescopic antenna to which an electrically non-conductive wire **34** is attached on an inside surface at an antenna point, and an electrically non-conductive coil former (shown in portion **30**) on which the electrically non-conductive wire **34** is wound, and the electrically non-conductive wire converts rotational movement of the former into a straight-line movement in order to retract and telescope out the telescopic segments of the telescopic antenna.

It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the antenna of Harada for that of Jamison, as either construction may be combined with a motor for mechanical extension and retraction of the antenna unit.

Regarding claim 17, shown in **figures 1 and 2** and discussed in **column 8, lines 12-18**, Harada teaches a spring **24** for supporting the wire for telescoping out the

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telescopic antenna, which presses all telescopic segments of the telescopic antenna outward so that the telescopic antenna is completely telescoped out.

Regarding claim 24, the combination of Jamison and Harada, does not clearly teach that the non-conductive wire is a nylon wire. However, the Examiner takes Official Notice that using nylon material for the element which adjusts the length of a telescoping antenna is well known in the art and would have been obvious to substitute for the non-conductive wire **34** of Harada since nylon is a pliable reinforcing material capable of withstanding any tractive force or buckling load applied thereto when the antenna element is driven for vertical movement. (see **Druecker**, cited below.)

7. Claims **18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493)** in view of **Myer (US 4,658,260)**.

Regarding claims 18 and 19, Jamison does not clearly teach that the antenna is constructed such that the adjusting part includes an electrically conductive coil former and electrically conductive wire connected to the coil former, the electrically conductive wire being wound about the former and through rotational movement of the former is guided into an electrically non-conductive hollow body, into a straight line movement and the antenna is constructed as a wire antenna which is composed of the telescoped-out wire, a connection of the wire antenna being achieved via an electrically conductive sliding contact.

Myer teaches that the antenna is constructed such that the adjusting part (**shown in figure 3-8**) includes an electrically conductive coil former (**38,47**) and

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electrically conductive wire (**20**) connected to the coil former, the electrically conductive wire being wound about the former and through rotational movement of the former, is guided into hollow body, into a straight line movement; the antenna is constructed as a wire antenna which is composed of the telescoped-out wire; and ***as best understood with regard to the 35 U.S.C. 112 first paragraph rejection above***, Myer appears to teach a connection of the wire antenna being achieved via an electrically conductive sliding contact (**51**).

It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the antenna construction of Myer for that of Jamison, as either construction effectively serves to extend and retract a multiband antenna. Myer does not teach that the hollow body into which wire antenna is urged is provided with a non-conductive outer layer. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to include an outer non-conductive housing, such as a rigid plastic material, for the purpose of protecting the telescoping antenna from external damage. (see cited reference **Morrison 4,101,897**).

8. Claim **21** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jamison (US 4,803,493)** in view of **Pike (US 4,843,634)**.

Regarding claim 21, Jamison teaches that the antenna is adjusted via electric motor **6**. Jamison does not clearly teach that the electric motor is a stepping motor.

Pike teaches a high power system employing a stepping motor for tuning. It would have been obvious for one of ordinary skill in the art at the time of the invention to

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substitute a stepping motor for the motor 6 of Jamison, since the position of a stepping motor can be easily calculated by counting the number of steps it has taken.

(See column 3, lines 45-50 of **Pike**).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Druecker US 4,907,007 teaches use of nylon retractor/extender .

Morrison US 4,101,897 teaches providing a non-conductive hollow tubing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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